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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/703,038	10/31/2000	Tony M. Brewer	59182-P004US-10020641	8896
29053	7590	04/05/2005	EXAMINER	
DALLAS OFFICE OF FULBRIGHT & JAWORSKI L.L.P.			TON, ANTHONY T	
2200 ROSS AVENUE				
SUITE 2800			ART UNIT	
DALLAS, TX 75201-2784			PAPER NUMBER	
			2661	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/703,038

Applicant(s)

BREWER ET AL.

Examiner

Anthony T Ton

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 63-124 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 63,68-71,73-90,94,96-109 and 111-124 is/are rejected.
- 7) ☒ Claim(s) 64-67,72,91-93,95 and 110 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



PHIRIN SAM

PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTIONS

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 63, 78-89, 101-109, 111-120 and 122-124** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Woodward et al.* (US Patent No. 6,151,318) in view of *Lindsey et al.* (US Patent No. 6,226,296), hereinafter referred to as *Woodward* and *Lindsey*, respectively.

a) **Regarding to Claim 63:** *Woodward* disclosed a method of passing Internet Protocol data packets through a network, said method comprising:

constructing a chunk as substantially fixed quantity of data with payload that is sized to fit more than one of said data packets (*see Fig.1: 36*);

filling said payload of said chunk with portion of at least one data packet (*see Fig.1: 10, 20 and 36*);

including a frame symbol in each said chunk (*see fragment type 34 in Fig.1; this fragment type functions as the framing symbol of the claimed limitation of this claim; for detailed description of such a type, see col.3 lines 40-65 and col.5 lines 2-19*);

Woodward fails to explicitly teach converting said chunk from electrical information into optical information and passing said chunk through an optical switch fabric.

Lindsey clearly disclosed such converting said chunk from electrical information into optical information and passing said chunk through an optical switch fabric (*see Fig.2, col.6 lines 12-42, and Fig.33*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such converting said chunk from electrical information into optical information and passing said chunk through an optical switch fabric as taught by *Miles with Woodward* for routing electrical data information through an optical switch. The motivation for doing so would have been to make *Woodward's* packets be transmitted faster and more efficient. Therefore, it would have been obvious to combine *Lindsey* and *Woodward* the invention as specified in this claim.

b) Regarding to Claims 78-82: *Woodward* further disclosed formatting said chunk to include adding a chunk header as recited in claim 78 (*see Fig.1: 32 and 34*); said chunk header includes identification of chunk type as recited in claim 79 (*see Fig.1: 34*); said chunk header includes a header parity (*see a header parity can be included in the additional header information 32 as recited in col.2 lines 56-59*); said chunk header includes an indication that said chunk is a master chunk as recited in claim 81 (*see two Bytes PAD in Fig.3; one bit of these Bytes can be used as master bit in the 16th data packet; wherein this packet is considered as a master packet*); and said chunk header includes a sequence number as recited in claim 82 (*see col.6 lines 48-57*).

c) Regarding to claims 83-87: *Woodward* disclosed all aspects of these claims as set forth in claims 63 and 82.

Woodward did not clearly teach the following subject matters of the claims:

performing error detection and correction using said sequence number in said chunk header for alarming and for alerting that a chunk potentially was corrupted as recited in claim 83; a re-initialize bit is used to enable reinitialization of said sequence number, such that said alarming is avoided as recited in claim 84; said substantially fixed sized chunks each have a length of approximately 400 bytes as recited in claim 85; said fixed sized chunk contains multiple data packets as recited in claim 86; and said fixed sized chunk contains a segment of a data packet, said data packet having a length greater than size of said chunk as recited in claim 87.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such subject matters teaching in the instant claims with *Woodward* as design choices. The motivation for doing so would have been to route data information through a communication network properly. Therefore, it would have been obvious to combine such subject matters and *Woodward* the invention as specified in these claims.

d) Regarding to Claims 88 and 89: *Woodward* and *Lindsey* disclosed all subject matters of these claims as set forth in claim 63. Therefore, the rejection to the claim 63 is also applied to reject these claims in an IP packet router system as taught.

e) Regarding to Claims 101, 102, 105, 107 and 108: *Woodward* and *Lindsey* disclosed all subject matters of these claims as set forth in claims 78-81, respectively. Therefore, the rejections to the claims 78-81 are also applied to reject these claims in an IP packet router system as taught.

f) Regarding to Claims 103, 104, 106 and 111: *Woodward* disclosed all aspects of these claims as set forth in claims 88 and 101.

Woodward fails to explicitly teach the following subject matters:

said appropriate switch plane is one of a plurality of subplanes comprising a partitioned switch fabric as recited in claim 103; said chunk header includes identification of a specific routing subplane through said switch fabric as recited in claim 104; said chunk header includes identification of an input of said appropriate optical switch plane and output of said appropriate optical switch plane for said chunk as recited in claim 106; and said switch fabric comprises a plurality of optical switch planes as recited in claim 111.

However, *Lindsey* clearly disclosed such said appropriate switch plane is one of a plurality of subplanes comprising a partitioned switch fabric (*see Fig.2: 210 and 220*).

In addition to above such subject matters of optical switch plane would be considered a design choice.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such subject matters as taught by *Lindsey* with *Woodward*, in order to make *Woodward* more efficient and reliable because such said appropriate switch plane is a part of an optical switch fabric. The motivation for doing so would have been to route data information through a SONET properly. Therefore, it would have been obvious to combine *Lindsey* and *Woodward* the invention as specified in these claims.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such converting said chunk from electrical information into optical information and passing said chunk through an optical switch fabric as taught by *Lindsey* with *Woodward* for routing electrical data information through an optical switch. The motivation for doing so would have been to make *Woodward's* packets be transmitted faster and more efficient. Therefore, it

would have been obvious to combine *Lindsey* and *Woodward* the invention as specified in these claims.

g) Regarding to Claim 109: *Woodward* further disclosed said payload of said at least one chunk further comprises at least one packet segment and an associated packet header (*see Fig.1: 12 and 22*);

h) Regarding to Claims 112 - 114: *Woodward* and *Lindsey* disclosed all subject matters of these claims as set forth in claim 63. Therefore, the rejection to the claim 63 is also applied to reject these claims in a method as taught.

i) Regarding to Claims 115, 119 and 122: *Woodward* and *Lindsey* disclosed all subject matters of these claims as set forth in claims 101, 106 and 102, respectively. Therefore, the rejections to the claims 101, 106 and 102 are also applied to reject these claims in a method as taught.

j) Regarding to Claims 116 and 117: *Woodward* and *Lindsey* disclosed all subject matters of these claims as set forth in claims 103 and 104, respectively. Therefore, the rejections to the claims 103 and 104 are also applied to reject these claims in a method as taught.

k) Regarding to Claims 118, 120, 123 and 124: *Woodward* disclosed all aspects of these claims as set forth in claims 112, 115-117, 119 and 122.

Woodward fails to explicitly teach the following subject matters:

said directing comprising using identification in said chunk header of a specific routing subplane to route said chunks through said switch fabric as recited in claim 118; said directing comprises using said identification in said chunk header of said input and said output to route said chunks through said optical switch plane as recited in claim 120; said directing comprises

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using said identification of chunk type in said chunk header to enable guaranteed bandwidth chunks to pass ahead of best effort chunks through said switch fabric as recited in claim 123; and said optical switch plane is part of an optical switch fabric as recited in claim 124.

However, *Lindsey* clearly disclosed such said appropriate switch plane is one of a plurality of subplanes comprising a partitioned switch fabric (*see Fig.2: 210 and 220*).

In addition to above such subject matters of optical switch plane would be considered a design choice.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such subject matters as taught by *Lindsey* with *Woodward*, in order to make *Woodward* more efficient and reliable because such said appropriate switch plane is a part of an optical switch fabric. The motivation for doing so would have been to route data information through a SONET properly. Therefore, it would have been obvious to combine *Lindsey* and *Woodward* the invention as specified in these claims.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such converting said chunk from electrical information into optical information and passing said chunk through an optical switch fabric as taught by *Lindsey* with *Woodward* for routing electrical data information through an optical switch. The motivation for doing so would have been to make *Woodward's* packets be transmitted faster and more efficient. Therefore, it would have been obvious to combine *Lindsey* and *Woodward* the invention as specified in these claims.

3. **Claims 68-71, 94 and 121** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Woodward et al.* (US Patent No. 6,151,318) in view of *Lindsey et al.* (US Patent No. 6,226,296) as applied to claim 63 above, and further in view of *Feldmeier* (US Patent No. 5,583,859).

a) **Regarding to claims 68-71:** *Woodward* disclosed all aspects of these claims as set forth in claim 63.

Woodward fails to explicitly teach the following subject matters of these claims: formatting said chunk to include forward error correction (FEC) coding as recited in claim 68; said formatting includes CRC coding in each chunk as recited in claim 69; using said FEC encoded in each said chunk to detect and correct errors in said chunk as recited in claim 70; and using said CRC encoded in each said chunk to determine the entire said chunk has a proper CRC value as recited in claim 71.

Feldmeier explicitly disclosed such subject matters (*see col.8 lines 49-65*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such subject matters as taught by *Feldmier* with *Woodward*, so that the location of FEC field can be located anywhere in a data packet and CRC can be provided in the environment of the Woodward's invention. The motivation for doing so would have been to reduce errors in transmitting data information throughout a communication network. Therefore, it would have been obvious to combine *Feldmier* and *Woodward* the invention as specified in these claims.

b) **Regarding to Claim 94:** *Woodward* and *Lindsey* disclosed all subject matters of this claim as set forth in claim 68. Therefore, the rejection to the claim 68 is also applied to reject this claim in an IP packet router as taught.

c) **Regarding to Claim 121:** *Woodward* and *Lindsey* disclosed all subject matters of this claim as set forth in claims 68-70. Therefore, the rejection to the claims 68-70 is also applied to reject this claim in a method as taught.

4. **Claims 73-77, 96-99** and are rejected under 35 U.S.C. 103(a) as being unpatentable over *Woodward et al.* (US Patent No. 6,151,318) in view of *Lindsey et al.* (US Patent No. 6,226,296) as applied to claim 63 above, and further in view of *Spendley* (UK Patent Application No. 2,086,184).

a) **Regarding to Claims 73-77:** *Woodward* disclosed all aspects of these claims as set forth in claim 63.

Woodward fails to explicitly teach the following subject matters:

Formatting said chunk to include a "Break Bytes" field and "Make Bytes" field, said fields configured to precondition an optical receiver prior to the arrival of said chunk as recited in claim 73; said "Break Bytes" field and said "Makes Bytes" field are programmable in length as recited in claim 74; said passing comprise said "Break Bytes" field and "Make Bytes" field to precondition an optical receiver prior to the arrival of a chunk as recited in claim 75; said "Break Bytes" field maintains a 50 percent density of ones and zeros for a laser beam as recited in claim 76; and said "Makes Bytes" field reestablished a decision threshold level of a limiting amplifier within a burs mode optical receiver.

Woodward did not clearly teach "Break Bytes" field maintains a 50 percent density of ones and zeros for a laser beam and wherein said "Make Bytes" field reestablishes a decision threshold level of a limiting amplifier within a burst mode optical receiver. However, such

subject matters are used to balance zeroes and ones for transmitting data information going through an optical switch in a dark period.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such subject matters teaching in the instant claims with Woodward, in order to make Woodward more efficient and reliable because “Break Bytes” and “Make Bytes” fields located at the beginning of a data packet in a purpose of DC balance going through in an optical switch. The motivation for doing so would have been to route data information through a SONET properly. Therefore, it would have been obvious to combine the instant claims and Woodward the invention as specified in these claims.

Spendley explicitly disclosed such “Break Bytes” and “Make Bytes” fields (*see page 2 lines 73-100*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such subject matters as taught by *Spendley* with *Woodward*, in order to make Woodward more efficient and reliable because “Break Bytes” and “Make Bytes” fields located at the beginning of a data packet in a purpose of preconditioning for an optical receiver to be in proper state before receiving actual data arrived at the receiver. The motivation for doing so would have been to route data information through a SONET properly. Therefore, it would have been obvious to combine *Spendley* and *Woodward* the invention as specified in these claims.

b) Regarding to Claims 96-99: *Woodward* disclosed all aspects of these claims as set forth in claim 88.

Woodward fails to explicitly teach a preamble for a chunk format, said preamble containing information configured to allow alignment of router clock and data recovery; and

“Break Bytes” and “Make Bytes” fields in a chunk format. However, a preamble is normally used in IEEE 802.3 and 802.4 frame formats to allow a receiving station to acquire clock synchronization before receiving the frame contents.

In addition, *Woodward* fails to explicitly teach “Break Bytes” and “Make Bytes” fields.

Spendley explicitly disclosed such “Break Bytes” and “Make Bytes” fields (*see page 2 lines 73-100*), and *Spendley* did not explicitly disclose “Break Bytes” and “Make Bytes” fields are located at the beginning of a data packet. However, the location of “Break Bytes” and “Make Bytes” fields is a design choice.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such subject matters as taught by *Spendley* with *Woodward*, in order to make *Woodward* more efficient and reliable because “Break Bytes” and “Make Bytes” fields located at the beginning of a data packet in a purpose of preconditioning for an optical receiver to be in proper state before receiving actual data arrived at the receiver. The motivation for doing so would have been to route data information through a SONET properly. Therefore, it would have been obvious to combine *Spendley* and *Woodward* the invention as specified in these claims.

5. **Claim 100** is rejected under 35 U.S.C. 103(a) as being unpatentable over *Woodward et al.* (US Patent No. 6,151,318) in view of *Lindsey et al.* (US Patent No. 6,226,296) as applied to claim 88 above, and further in view of *Enns et al.* (US Patent No. 6,658,010), herein after referred to as *Enns*.

Regarding to Claim 100: *Woodward* disclosed all aspects of this claim as set forth in claim 88.

Woodward fails to explicitly teach a scrambler seed included in a chunk.

Enns disclosed such a scrambler (*see controller 12 in Fig.2 and col.9 lines 21-25*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such a scrambler as taught by *Enns* with *Woodward*, in order to save the length of packets, as well as balance zeros and ones of data in a packet. The motivation for doing so would have been to route data information through a SONET properly. Therefore, it would have been obvious to combine *Enns* and *Woodward* the invention as specified in these claims.

Allowable Subject Matter

6. **Claims 64-67, 72, 90-93, 95 and 110** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Anthony T Ton** whose telephone number is **571-272-3076**. The examiner can normally be reached on M-F: 9:00 am - 5:30 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Chau Nguyen** can be reached on **571-272-3126**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

by: 
Anthony T. Ton
Patent Examiner
April 1, 2005


PHIRIN SAM
PRIMARY EXAMINER